USER GUIDE
MAPASAV PLUS 1.0

SAVE 33

Specification and contents of this user manual subject to change without notice.

GUARANTEE TERMS

The SAVE 33 24-month guarantee covers the costs of spare parts and workforce for all genuine SAVE 33 products.
The guarantee begins from the purchase date, invoice serving as proof.
Faulty components which are not manufactured by SAVE 33 such as computers, option and peripheral cards from different origins are excluded.
Damage due to unusual handling or wrong operation, deterioration or mistakes made by inexperienced or unregistered repairmen, as well as consumables and freight charges are also excluded.

Guarantee exclusions:

The 24-month guarantee will effectively apply for SAVE 33 appliances provided:

- The instructions for use are respected, especially regarding the use of battery cells and batteries

- The appliances together with accessories are sent in their original case

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</div>

PREAMBLE

These lines below define the words in the manual usually used in the arterial hypertension speciality.

MAPA :　　　　1. Ambulatory blood pressure measurement
　　　　　　　2. designates also the ambulatory blood pressure monitor.

MAPA33 :　　　MAPA device marketed by SAVE 33. Two versions are available:

　　　　　　　- the simple MAPA33 which records arterial pressure according two interval times, the day interval time and the night interval time starting respectively at the wake up hour and the bed hour.

　　　　　　　- the mutlicycle MAPA33 can include until 12 different interval times, starting hour must be defined for each one. The wake up hour and the bed hour do no more intervene in the interval times but only in the statistics.

HOLTER :　　　Word currently used to designate an ambulatory monitor.
　　　　　　　You find so:

　　　　　　　- ECG Holters which record the electrocardiograph signal.
　　　　　　　- Blood pressure Holters which record the blood pressure periodically according to predefined interval times.

I - __INTRODUCTION__

I-1. Composition of the PC kit

Your PC kit is composed of :

- a CD-ROM of the latest version of the MAPASAV PLUS software
- an interface cable RS 232 (9/9 points) between the MAPA33 and your computer
- a serial/USB adaptator cable with the driver setup CD-ROM (optional on request)
- a user manual of the MAPASAV PLUS software in format PDF on the CD-ROM of MAPASAV PLUS

I-2. About this manual

This manual is intended for users ready familiarised with the MAPA33. Basic notions as for Windows using are also necessary.
If it is not the case, please refer to the concerned documents.

For the not equipped users in mouse, the symbol ☞ appears in front of each explanation of the controls used with the keyboard.

I-3. Briefly explanations

The MAPASAV PLUS software allows you to profit fully from use of the MAPA33. It allows to establish a data base of all savings that you have made, to present them on your computer screen by graphs, to make statistic calculations, to print reports. It associates advantages of a personalised reading system and the professional diagnostics possibilities of the ambulatory blood pressure.

Presentation of data

Data can be represented by list, linear graphs, chart bars or sector graphs.

Calculations on data

- average list, hour by hour of the measures
- minimum, maximum, averages, standard deviations calculation
- percentages calculation of measures crossing possible personalised thresholds

Printing

The report can be personalised :

- heading of the doctor's office
- number of pages according to the wished information
- comments field
- general information on the patient

I-4. I-4. Connection of the MAPA33 to the computer

Data of the MAPA33 are transmitted to the computer through an interface cable. Data are transferred under the checking of the computer. The interface cable does not need external power supply and has no button. The interface cable can stay connected with the computer which allows a reading of the MAPA33 at any moment without reconnecting.
The drawing 1 below describes the connection.

HOLTER.EXE

MAPA 33
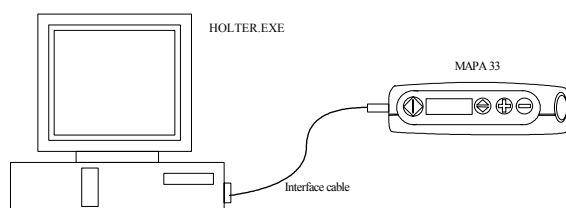
Interface cable

Drawing 1

II – <u>REQUIRED MATERIAL TO USE THE SOFTWARE</u>

II-1. <u>Minimum system</u>

- Compatible PC in accordance with the EC approvals in force
- a free serial or USB port (cf. II-2)
- a CD-ROM drive
- Microsoft Windows XP or VISTA

II-2. <u>Interface cables</u>

Connection to a serial COM port
The serial interface cable must be connected to a free serial port of your computer (COM1, COM2, COM3 or COM4).
If your computer has not a free port, it is possible to obtain a commutator of serial port.

Connection to a USB port
For an USB connection, use a serial/USB adaptor type UMC 100 compatible with your operating system (Windows XP or VISTA / Macintosh). The adaptor must be connected between a free USB port of your computer and the serial interface cable itself connected to your MAPA33 device. It is recommended to follow-up the attached note to setup accurately the driver from the CD-ROM delivered with the adaptor. (cf annex 1)

II-3. <u>Protection of data</u>

To protect recorded data in your computer, it is necessary to save it regularly (in a floppy disk by instance). It will give you the opportunity to protect you from a total loose of data if a trouble arises on the computer.

III – <u>SET UP</u>

You can set up the MAPASAV PLUS software on the hard disk only with the CD-ROM supplied in the PC kit.
The software is not an auto-run program, please follow-up the instructions below.
Before, please check that any other program is not opened during the set up.

1/ Create a folder on the hard disk of your computer, that you entitle MAPASAV or MAPA33
2/ Put the CD-ROM in the drive, a window is opened as below.
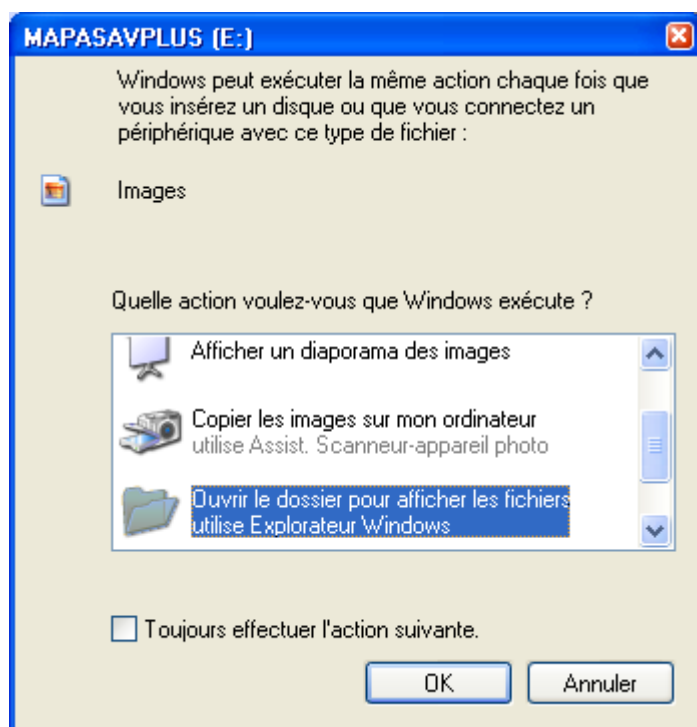
3/ Select "Open the folder to display the files" and click on OK.
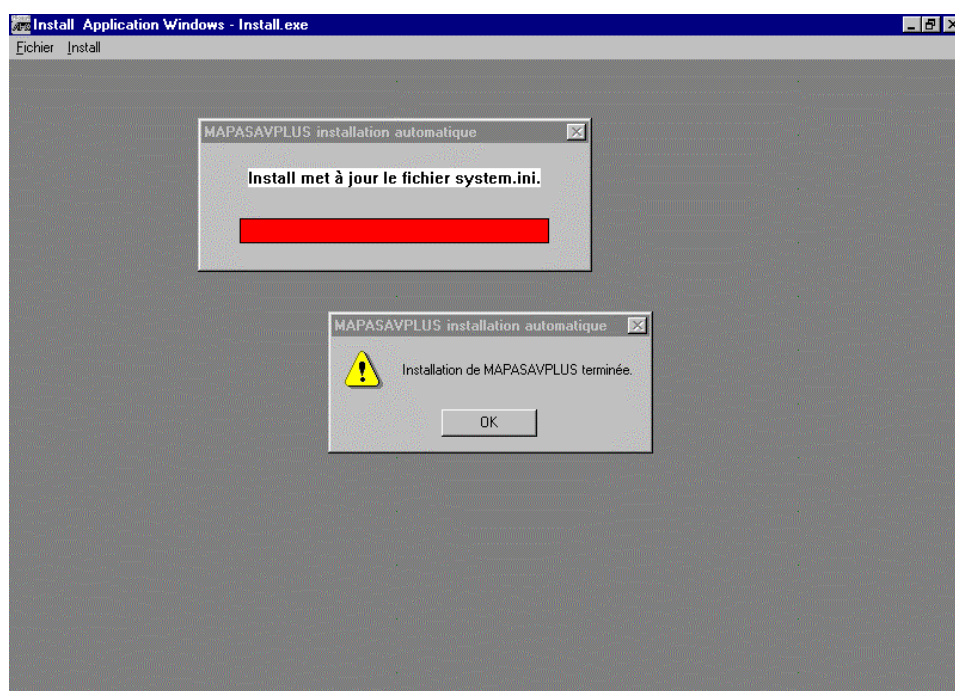The window is opening as below;
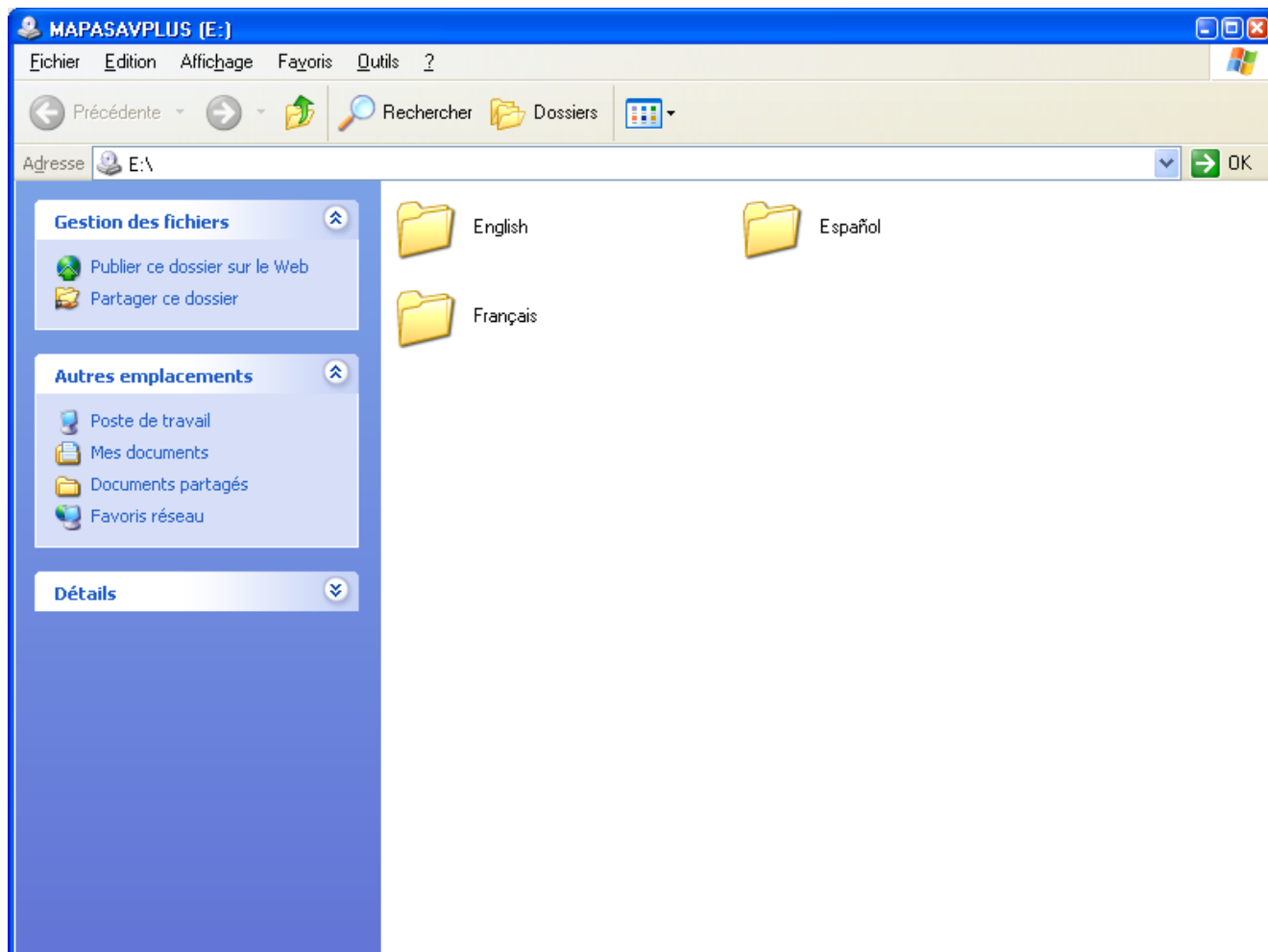
4/ Double-click on the file "English"

5/ Select all the files included in the folder "English" and copy/paste the files in the folder MAPASAV or MAPA33 you have created previously on the hard disk of your computer.

6/ Double-click on the folder MAPASAV PLUS version 1.0, then on the file Install.exe

The screen is displayed as the window below.

When the set up is finished, click on OK. The new MAPASAV PLUS group which has been just created is displayed on the screen with the program icon inside.
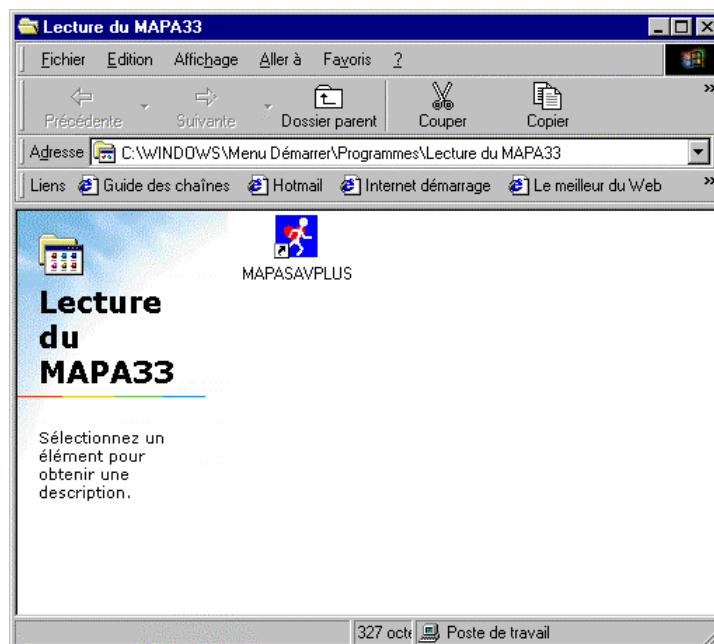
Click this icon to start the program.

Note :
In the Windows XP version, the next startings will be done by this way :

- click on Start
- select Programs
- select the LECTURE DU MAPA33 program
- click on the MAPASAV PLUS icon

IV - <u>WORK WITH THE MAPASAV PLUS SOFTWARE</u>

IV-1. <u>The set up</u>

The Set up window below is available in the File menu, Set up control. It is composed of three parts: Report, limit values, Communication.

If a later alteration is necessary, the window is accessible by this icon.

Note : A fourth part 'ACTIVITY' is available if this option has been validated in the 'Communication' part. If your MAPA does not include the activity option, it will be automatically devalidated by the software at each communication with your MAPA.

IV-1.1. The report

To set up the report, click on 'Report' part in the set up window. The window below appears:
To validate an option, tick off the corresponding box by clicking with the mouse cursor (same operation to deactivate an option).

Window 3

A/ *'Colour printer' frame*

The option 'Colour printer' permits to print the curves and graphs in colour with a colour printer. To optimise the quality graphs with a black and white printer, deactivate this option.

B/ *'Report' frame*

The report can contain 9 information pages (or more following the number of measures).
To select the pages to print, tick off the boxes in front of the numbers of pages by clicking with the mouse.

The page 1 or heading 1 contains:
- the heading of the medical office
- information about the patient
- technical data of the exam (hour of the pose, percentage of success, …)
- a commentary field
- a treatment field
The page 2 or heading 2 contains again the previous information, and the statistical data (page 5) replacing the fields "Comments" and "Treatment".
The page 3 contains chart bars of data on the screen.
The page 4 contains sector graphs of data of the exam.

The page 5 contains statistic tables (averages, standard deviations).
The page 6 contains a table regrouping the exam data (records).
The page 7 contains a table of the eliminated measures.
The page 8 contains a table of average data hour by hour (hourly records).
The page 9 contains hourly graphs.

☞ Select the option with the TABULATION key or the SHIFT and TABULATION keys simultaneously pressed, then validate or deactivate with the space bar or the + - keys of the key-pad.

C/ *'Report Heading' frame*

This area of the text permits to personalise the report writing the name and address of the medical office.
The text can be aligned on the right, on the left or centred.
The heading can contain a maximum of 4 lines. You go from a line to another with the ENTER key. If the ENTER key is inefficient (4 lines entered), press the ← ↑ ↓ → keys to move into the window (or click with the mouse in the wished area).

To validate modification, click OK.

IV-1.2. The limit values

To set up your own limit values necessary to calculations of different graphs and statistics, click on the part 'Limit values'. The window below appears:

Window 4

The window is made up of two tables of limit values: one for sector graphs, the other for hourly graphs.

A/ *'Sector Graphs' frame*

This table allows to fix the minimum and maximum limit values of systolic and diastolic pressures and the heart rate for the day period and the night period.

B/ *'Hourly Graphs' frame*

This table allows to fix the limit values of systolic and diastolic pressures and the heart rate for the day period and the night period.

Values entered in the edit boxes can be saved as a default values table by validating one of the buttons entitled DEF1, DEF2, DEF3, DEF4, DEF5. It is possible to fix and save your own tables of default limit values in the limit of five buttons. The frame 'Change of the wording' allows to renown the selected table of limit values.
The wording is modified automatically in the same time near the button.
Then you can select one of these tables of limit values in the 'Personalization' window, thanks to 5 buttons identically entitled. (see paragraph IV.4)
The button 'Standard values' allows to initialize the limit values by default according to the JNC6, values appearing in the above window.
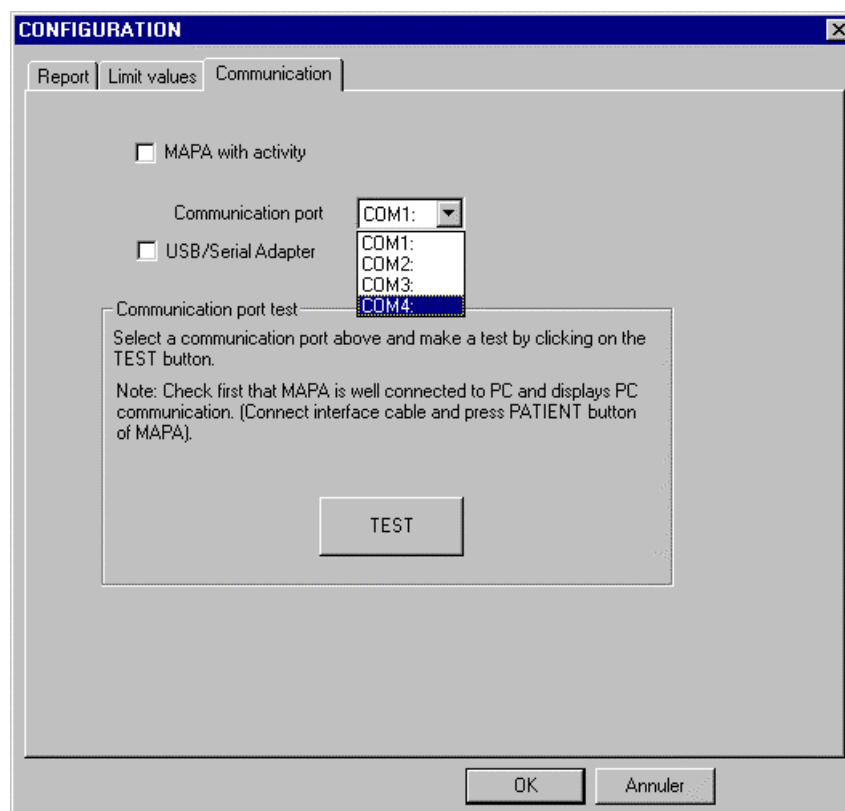
☞ Select the fields with the TABULATION key or the SHIFT and TABULATION keys simultaneously pressed, and the buttons DEF with these arrows ↑↓.

To validate any modification made in the window 'Limit values', click OK.

IV-1.3 The communication

The 'Communication' part allows to call the 'Communication' window to select the communication port of the computer on which the MAPA33 is connected.
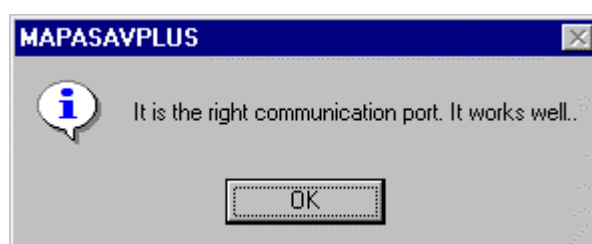

Window 5

☞ Select the option with the TABULATION key or the SHIFT and TABULATION keys simultaneously pressed, then validate or deactivate with the space bar or the + - keys of the key-pad.

To change the communication port:
- Click on the arrow situated on the right of the box containing the designation of the currently serial port selected
- Choose a serial port among 4 possibilities proposed by clicking with the button of the mouse
  Click OK to confirm your choice.

☞   Select this box with the TAB key and choose the serial port with the ← ↑ ↓ → keys.

To connect the MAPA33 to a USB port via a converting box (UMC 100), it is necessary to activate the option 'USB/Serial Adapter'.

☞   Select the option with the TABULATION key or the SHIFT and TABULATION keys simultaneously pressed, then validate or deactivate with the space bar or the + - keys of the key-pad.
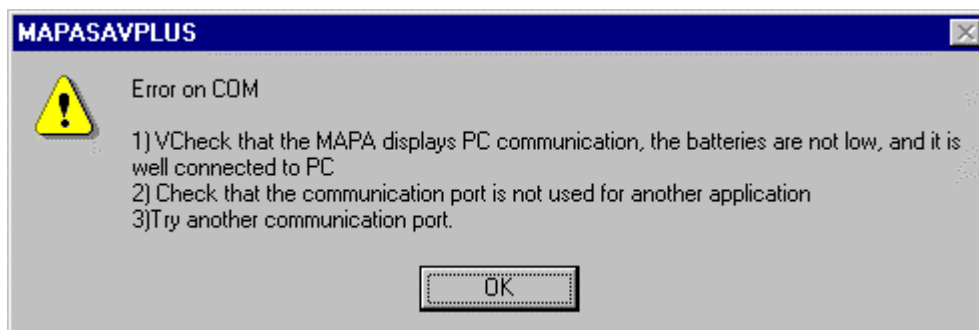
Note:
Click on TEST button to test the selected communication port.
I the test is OK, the message below appears:

Window 6

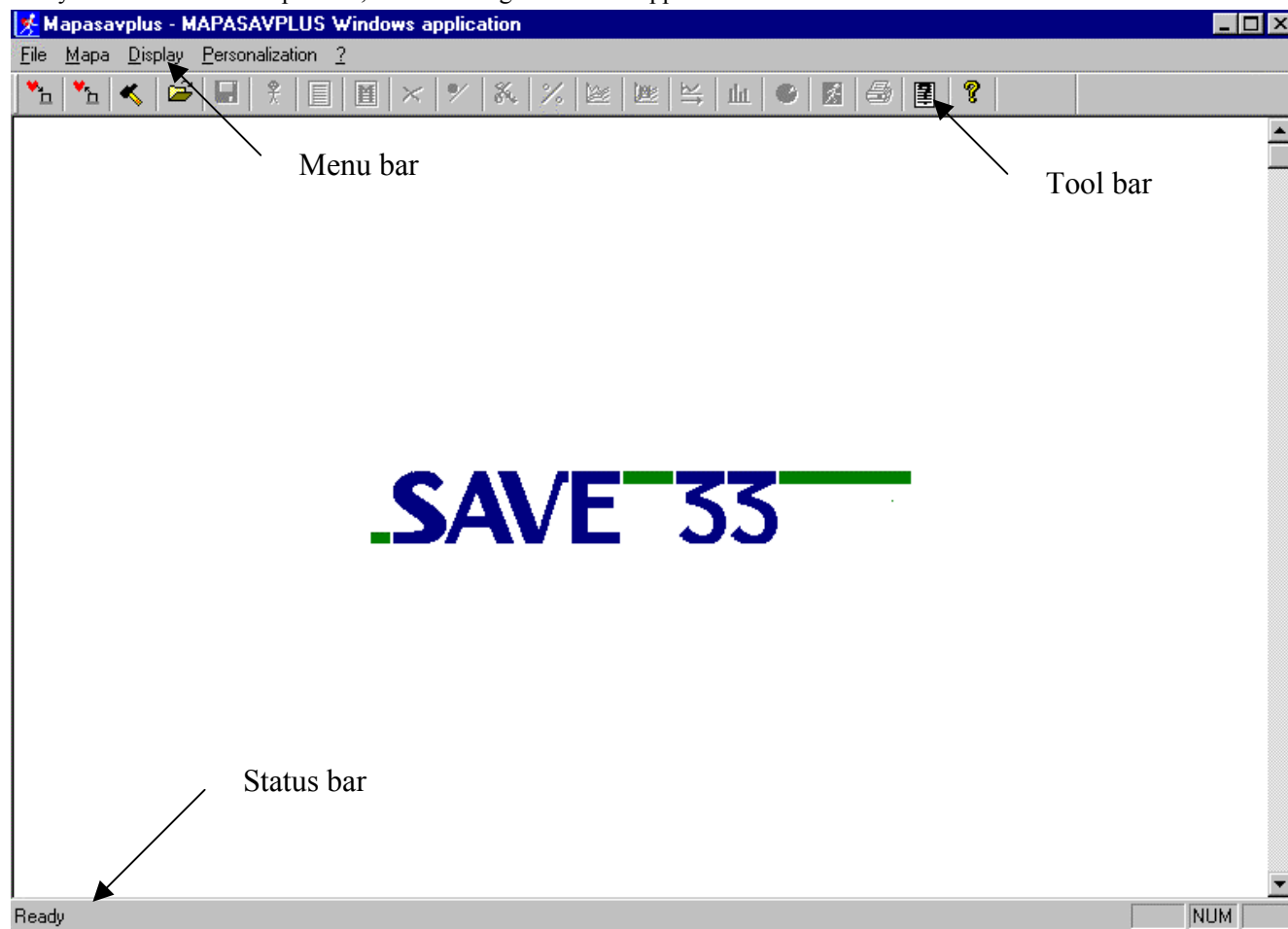In case of error, the following message appears:

Window 7

To exit this window of configuration saving the choices made, click on OK.

☞   Select the OK or Cancel key with the TABULATION key and press the ENTER key to validate.

IV-2 The tool bar and the status bar

When you will exit the set up board, the following screen will appear:

Window 8

Like all the programs working under Windows, we find:

- a menu bar
- a tool bar
- a status bar

The tool bar and status bar cannot be selected in the 'Display' menu. They disappear from the screen.

The tool bar is composed of icons (or buttons) which are in fact shortcuts of the choices proposed in the menus. To use them click on them with the mouse.
An icon appears in shading on the screen when its use is not possible at this moment in the program.

The different icons of the tool bar are described below.

The status bar indicates briefly the utility of a control selected in one of the menus.

	To transfer data from MAPA33 to PC.
	To program MAPA33.
	To open an existing file.
	To set up the report, limit values and communication port.
	To save the measures in a file.
	To personalize the report.
	To display the records table.
	To display the hourly records table.
	To eliminate a measure.
	To reverse the Night and Day status of a measure.
	To eliminate automatically all the measures with more than one inflate.
	To display the statistic and average table.
	To display the graph of arterial pressure and heart rate.
	To display the hourly graph of arterial pressure and heart rate.
	To magnify the measures.
	To display the systolic and diastolic chart bars.
	To display the sector graphs of systolic and diastolic pressures and heart rate.
	To display Activity graph.
	To print the report.
	To remind the meanings of the abbreviations in the status column in the records table.
	To display the software version.

IV-3. Transfer the measures from the MAPA33 to the computer

- connect the MAPA33 as previously indicated on the connector (reference 2 figure 3)
- switch the MAPA33 on (reference 1 figure 3)
- press the patient key (reference 3 figure 3)
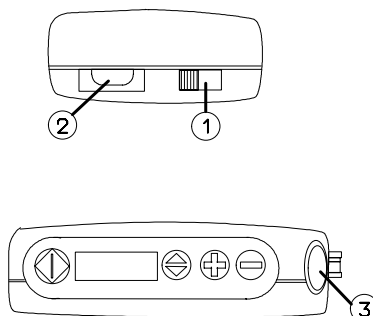
Figure 3

- the MAPA33 screen indicates 'PC Communication'.

 - click on 'Load the MAPA33 measures' icon to collect the data memorized in the MAPA33.

☞ Press the ALT and M keys simultaneously to call back the Mapa menu then press the L key to use the control Load.

The connection window of the MAPA33 opens as below. The blue bar represents the current loading.
If a message of error appears, look at the annexe 1.

IV-4. Personalization of the report

When the transfer is done, the window 'Personalization' opens automatically and appears as below:

Window 9

This window permits to enter specific data at this recording:
- Name of the patient, Address, Age, Sex, Code, Doctor, Comment/Conclusion, Treatment/Instruction
These data will be printed on the headings 1 and 2 of the report.

The 'Limit values' frame

It permits to fix the necessary thresholds to the calculations of the different graphs and statistics.
The buttons DEF1, DEF2, DEF3, DEF4 et DEF5 permit to initialize the limit values by default memorised in the 'Limit values' in the 'Set up' Window.

During the input of these parameters, some controls of values inputted by keyboard are carried out. Limited values are set as below:

$$40 < systolic < 250$$
$$40 < diastolic < 250$$
$$30 < heart\ rate < 150$$

The PATIENT field is obligatory. You will not be able to validate this window by just clicking on OK without filling the 'PATIENT' area. A click with the mouse permits to select a field and to enter the information on screen.
If the patient's name has been already recorded directly in MAPA33 unit (see MAPA33 user manual), this field will be filled automatically.

☞ To move in that window use the Tabulation key.

The sex choice is made by ← ↑ ↓ → keys once the field has been selected.

V - RUNNING OF THE RECORDED MEASURES

V-1. The records table

Exiting the personalization window, OK key pressed, the records table is immediately displayed.

Window 10

☞ Press ALT and D keys simultaneously to call back the menu Display then on the R key to use the 'Records' control.

The table is composed of lines corresponding to the measures made and of 9 columns:

Column 1:   measure number
Column 2:   hour of the measurement
Column 3:   systolic pressure value
Column 4:   diastolic pressure value
Column 5:   differential pressure value equal to the difference between systolic pressure and diastolic pressure
Column 6:   mean pressure, measured on the oscillometric curve
Column 7:   heart rate expressed by beatings per minute
Column 8:   status represented by a symbol which describes the context of the pressure measurement
Column 9:   'Comments' field which permits to insert a chain of 16 ASCII characters

Note:
The pressure values in the columns 3, 4, 5 and 6 are expressed in mmHg.

A/ *Moving in the records table*

On the table's right, a cursor called scroll bar permits to move the table in order to visualise at the screen the whole measures.

A click of the mouse on the arrow above the scroll bar makes go down the table if the first measure does not appear at the screen.
A click of the mouse on the arrow below the scroll bar makes go back up the table of a measure (at the top the measure disappears, a new measure appears at the bottom).
☞ Press the ↓ ↑ keys to use this command.

A click below the cursor of the scroll bar permits to go back up the table of a screen-page.
A click above the cursor of the scroll bar permits to go down the table of a screen-page.
☞ Press the PAGE UP and PAGE DOWN keys to use this control.
Pressing the HOME ◤ key permits to come back immediately to the first measure, the END key permits to display the last measure.

B/ *Selection of a measure*

A click on the line of measure permits to select it (see black bar in the window 10).
☞ Press the ENTER key to place the selection on the first measure of the page displayed. Press the ← → keys to move it.

C/ *Cancellation of a measure*

Click on the icon of the tool bar to cancel a measure selected (or otherwise validated again).

☞ Press the ALT and P keys in the same time to access the Personalization menu and the V key to use Invalid ⇔ Valid.

A crossed out measure is excluded of the different calculations (average, statistics,…).

D/ *The 'Status' column*

For a best analysis of the measures, the apparatus memorizes the recording conditions (to know why the measurements failed). This column is not available by the user. A recall of the symbols is available thanks to the menu '?' in the 'Help' function or via this icon.

☞ Press the ALT and SHIFT keys and '?' in the same time to open the '?' menu and the H key to select 'Help'. Then a window appears as below:
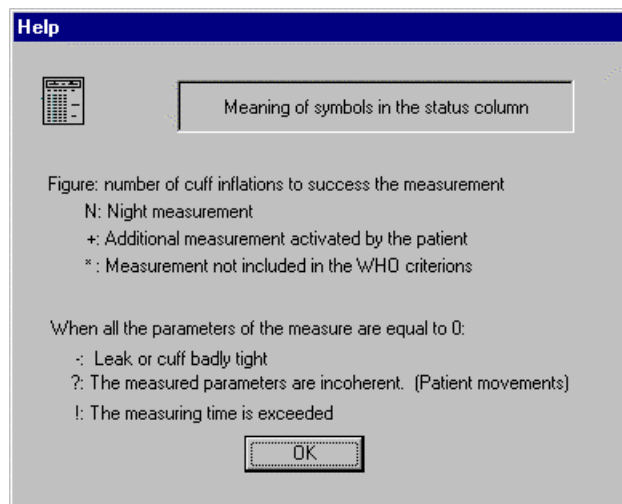
Window 11

To close the window, click on OK or press the ENTER key of the keyboard.

E/ *Cancellation of the measures which have needed more than one inflate*

Before using this control, it is necessary to save the file because its action is irreversible.
This symbol I indicates the number of inflates that the machine had to make in order to obtain a measure. Additional inflates prove (maximum 4) to be often due to movements of the patient during the measurement. The figures are then often not interpretable.

☞ Press the ALT and P keys in the same time to call the Personalization menu and the I key to use the I1 control.

F) *Alteration of the allocation of the night-day status of the measure*

Press this icon to modify the night-day status of a mesure.

☞ Press the ALT and P keys in the same time to call the Personalization menu and the N key to use the Night ⇔ Day.

Note:
Thanks to the mouse, it is possible to select a whole group of measures. Click on a measure and while pressing the left button of the mouse move this one towards the bottom. Loosen the button on the last measure.

Previous actions then will be applied on the whole group.

☞ This function is not available with the keyboard.

G/ *Access to the comment column of a measure*

With the cursor of the mouse, click the measure concerned and press on the right mouse button. The window opens as below:

Window 12

Then it is possible to enter the comment by the way of the keyboard (no more than 16 characters) for example there medicine. It is possible to modify the Night status or Day status in this window. You have to tick off or not the corresponding box. In the case of a MAPA with activity option, if there is a bad detection of the patient position, it is possible to correct by ticking off or not the case 'Lying down'.
(Case ticked off = Lying down, case not ticked off = standing).
Then validate by pressing the OK or Cancel button in order not to save the alterations.

☞ You have to place the selecting bar on the measure concerned (see paragraph V1B) and press the INSERT key. Then the same window is opening.
To move in the window, press the TABULATION key.
To validate the boxes Night / Lying down, select with the TABULATION key then tick off or not the corresponding box with + and – keys.

E/ *WHO Rejection of measures*

In the Personalization menu, the control 'WHO Rejection' allows to reject one or several measures which enter in the WHO exclusion criterions. The measures will not be rejected if they meet the following conditions:

1/ 40 mmHg < systolic pressure < 250 mmHg
2/ 30 mmHg < diastolic pressure < 150 mmHg
3/ If the systolic pressure is > 100 mmHg, the differential value (systolic-diastolic) must be > to 10 mmHg.

☞ Press the ALT and P keys in the same time to call the Personalization menu and the W key to use the control WHO Rejection.

V-2. The hourly records table
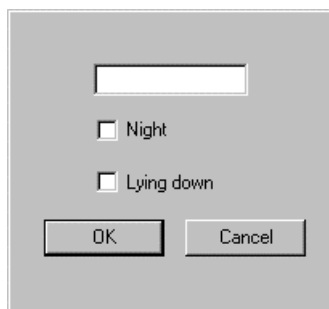
Click on this icon to display the hourly records table.

☞ Press the ALT and D keys in the same time to open Display menu and the H key to use 'Hourly records' control.

Then the table appears as below:

Hourly records table

hour	Syst	Mea	Dias	Rate	Number of measurements
12:00	174	125	101	77	3
13:00	163	119	97	73	4
14:00	165	114	89	78	4
15:00	147	107	87	80	3
16:00	179	120	92	75	4
17:00	160	112	88	69	3
18:00	165	115	91	74	2
19:00	173	119	93	67	4
20:00	160	106	80	69	4
21:00	172	118	91	75	4
22:00	152	103	79	68	2
23:00	169	112	84	67	2
0:00	142	102	81	65	2
1:00	161	108	82	73	2
2:00	144	101	80	66	2
3:00	137	99	80	73	2
4:00	151	106	85	63	2
5:00	162	106	79	68	2
6:00	156	111	88	73	2
7:00	157	110	86	70	3
8:00	152	112	93	96	3
9:00	130	97	81	82	3
10:00	144	105	85	85	4
11:00	165	116	92	84	4
12:00	179	127	101	91	4
13:00	158	111	89	85	4
14:00	141	99	79	77	4

Window 13

To move in this hourly records table, use the scroll bar.

☞ Press ↑ and ↓ keys of the keyboard as for the previous table.

The last column shows the number of measures used to do the average of the hour concerned. The other columns are the averages on the systolic, mean and diastolic pressures expressed in mmHg.

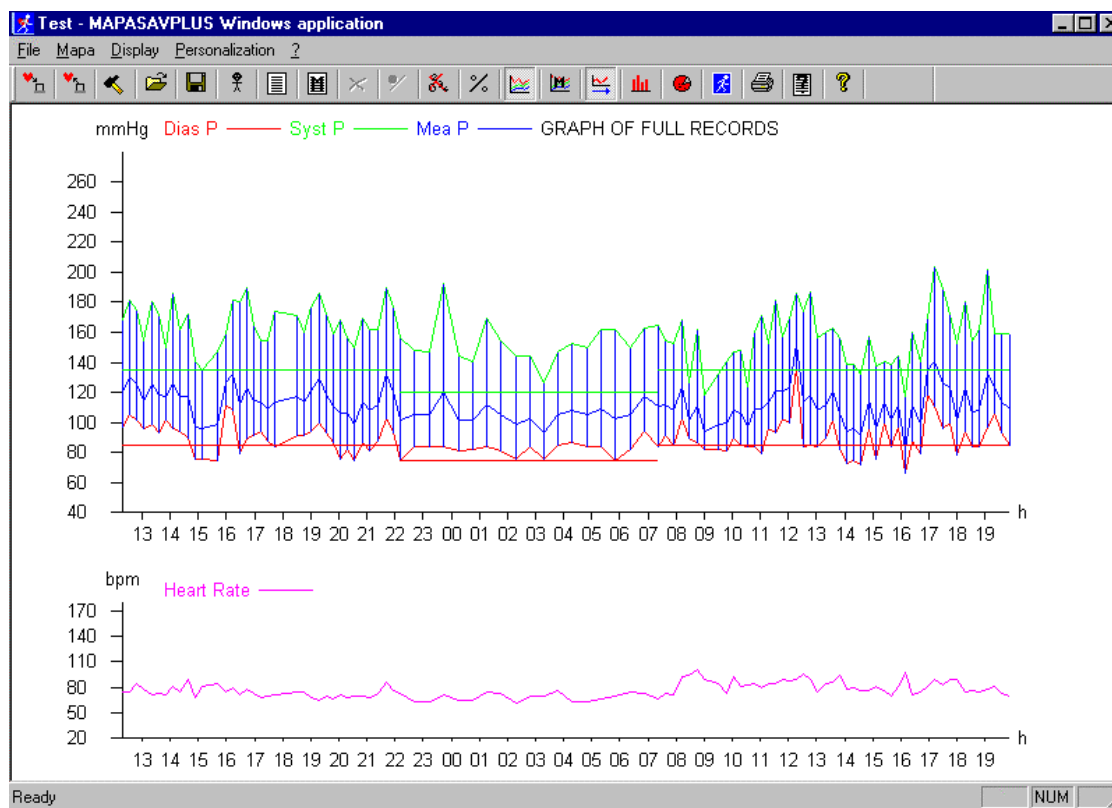V-3. The graphs

Data can be represented in the form of graphs:

- graph of the parameters evolution according to the time
- chart bars
- sector graphs

A/ *The hourly graph*

Click on this icon to display the hourly graph.

☞ Press the ALT and D keys in the same time to call the Display menu and press the G key to display the Graphs on screen.

Window 14

The graph of the top corner of the screen represents the pressures evolution, the graph of the bottom represents the heart rate evolution.

The horizontal scales represent hours of measurements.
Vertically pressure scales are expressed in mmHg.
On the pressure graph, pressures are represented by colour curves :

    - in green :   systolic pressure
    - in red :   diastolic pressure
    - in blue :   average pressure

The differential pressure is represented by a blue line linking systolic and diastolic pressure at the time of the measurement hour.

Night and day top limits of the systolic and diastolic pressures, fixed in the 'Hourly Graphs' frame of the Personalization window (Personalization menu, Personalization function) are represented by horizontal lines in their corresponding pressure colour:

    - in green for the systolic
    - in red for the diastolic

If the exam time is less than 24 hours, the standard graphic representation must be difficult to read.
The whole measures will be in fact linked on the left part of the graphs.

☞ Press the ALT and D keys in the same time to call the Display menu and the Z key to use the 'Zoom' control

B/ *The average hourly graph*

Click on this icon to display the average hourly graph.

☞ Press the ALT and D keys in the same time to call the <u>D</u>isplay menu and the O key to display the H<u>o</u>urly graphs.

Then the screen is as below:
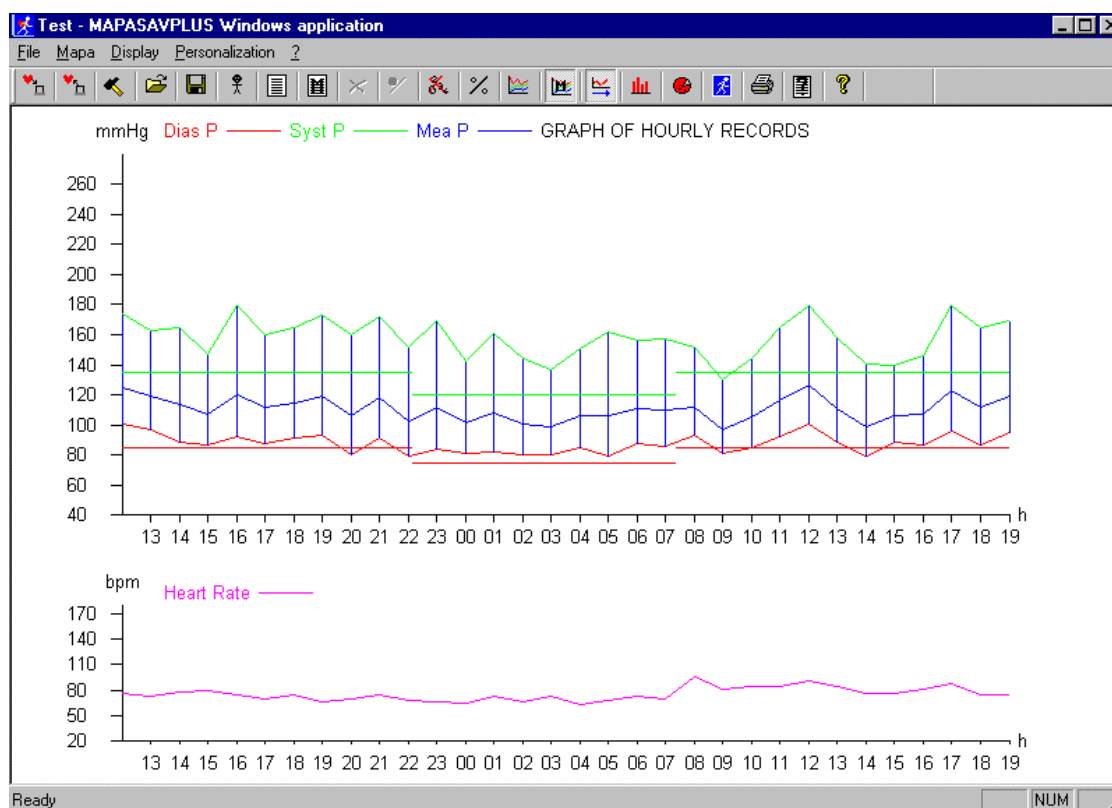
Window 15

The zoom function previously showed is still functional on this representation.

To interpolate or not the curves, click with the left button of the mouse on the hourly graphs and average hourly graphs.
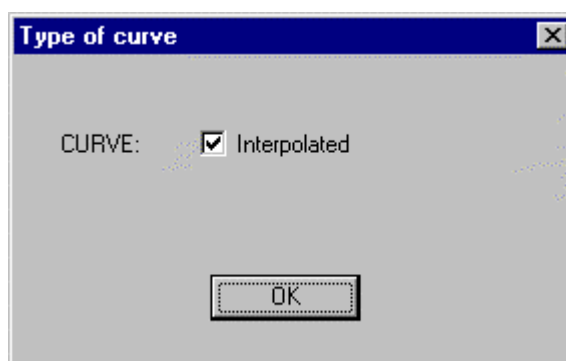
C/ *Chart bars*

Click on this icon to display chart bars.

☞ Press the ALT and D keys in the same time to call the <u>D</u>isplay menu and the C key to display the '<u>C</u>hart bars'.

The screen appears as below:

Window 16

Horizontal axis are graduated in cmHg, vertical axis in %.
Chart bars represent the division of pressure ranges in % on the whole measures.

D/ *Sector graphs or representations by sectors*

Click on this icon to display the sector graphs.

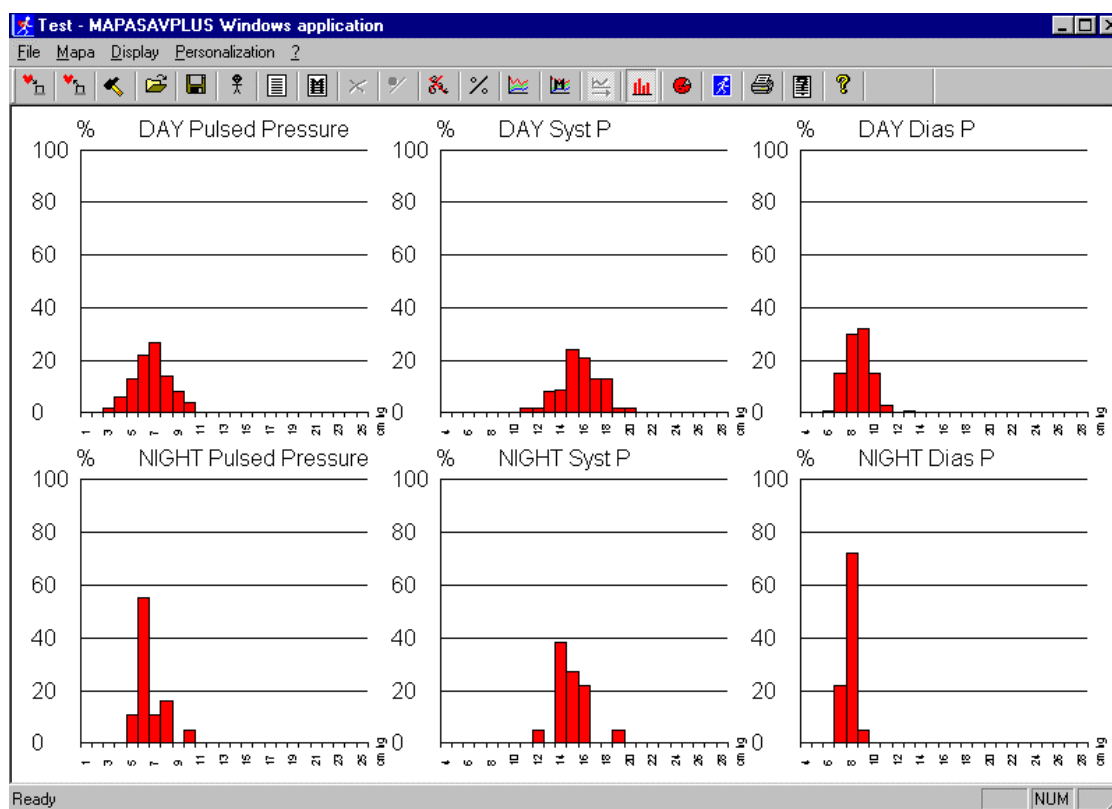☞ Press the ALT and D keys in the same time to call the <u>D</u>isplay menu and the E key of S<u>e</u>ctors to display the sector graphs. Then the screen is as below:
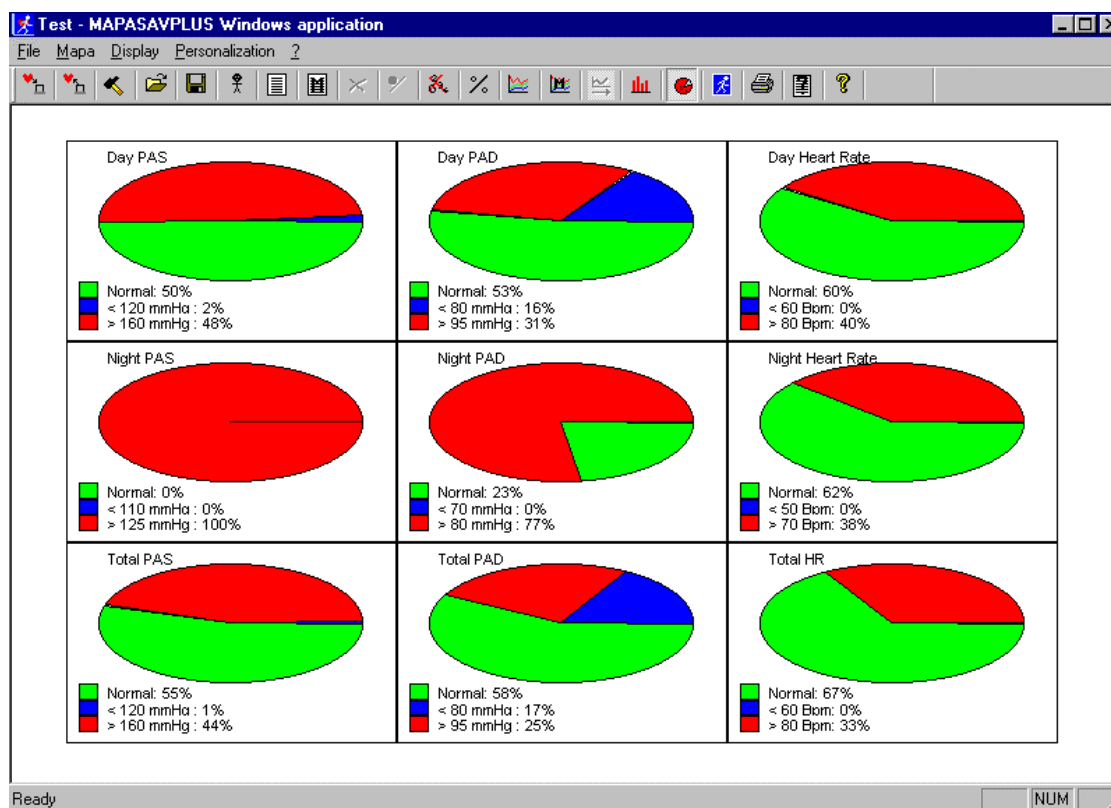
Window 17

Limits are alterable in the Personalization menu in the 'Sector graphs' frame.

Systolic, diastolic pressure and heart rate parameters appear on the three periods:

- day measures
- night measures
- total measures

Limits consist in defining a maximum value and a minimum value for each parameter, the values included between these 2 limits are considered as normal.

V-4. The statistics table

Click on this icon to display the statistics table.

☞ Press the ALT and D keys in the same time to call the Display menu and the S key to display the Statistics table.

Then the screen is as below:

Window 18

At the left top of the first table, the average pressure variation rate of the day systolic pressures compared with the night ones is displayed. At the right, the average pressure variation rate of the day diastolic pressures compared with the night ones is displayed.

Three periods are presented again:

- the period including the total measures
- the period which takes in account the measures made by day
- the period of the measures made by night

4 calculations are carried out:

- average
- variation period of the parameter, that is to say the minimum value and the maximum value measured
- standard deviation (see mathematics definition on annexe 1)
- percentages of measures superior to a value

Limit values used are those of hourly graphs and so are personalizable in the 'hourly graphs' frame of the Personalization window.

☞ Press the ALT and P keys in the same time to call the 'Personalization' menu and the P key to open the Personalization window.

VI - <u>CONTROLS</u>

In the File menu there are 3 possibilities to save data:

- Save
- Save as…
- Export

        VI-1. <u>The 'Save' control</u>

☞ Press the ALT and F keys at the same time to call the <u>F</u>ile menu and the S key to use the '<u>S</u>ave' control.
When data are from MAPA33, the software takes by default the name MAPA. Then the control is automatically put on 'Save as…' to propose to the user to change the name 'MAPA.map'.

        VI-2. <u>The 'Save as…' control</u>

This function permits to change the file name (or possibly the files-readers windows way) before its saving. If the extension '.map' is omitted, the software will add it automatically.

☞ Press the ALT and F keys in the same time to call the <u>F</u>ile menu and the A key to use the 'S<u>a</u>ve as…' control.
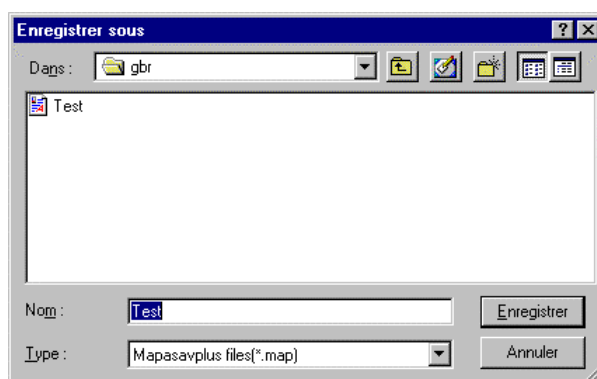
Window 19

☞ To move inside the window, use the TABULATION key.
To unwind the lists in the frames with arrows, use the ↑↓ keys.
To validate a file, a file type, a folder or a reader (disk drive) which is selected, press the ENTER key.

        VI-3. <u>The 'Export' control</u>

It permits to save the files in an other format than those with the extension '.map'. The binary format will permit for instance to get back a MAPA file under an other version of software. The ASCII format will permit to get back file data thanks to another software (a spreadsheet for instance).

☞ Press the ALT and F keys in the same time to call the <u>F</u>ile menu and the X key to use the 'E<u>x</u>port' control.

Window 20

VI-4. The 'Open…' a file control

The screen is as below:

Window 21

Write the name of the file to load in the window 'File name' or select it by clicking in the saved files list. If the file is not in the list, check if the way (Folder window) and the reader (disk drive) are OK
Validate clicking on the button OUVRIR.

Note:
A double click on the file name in the list will load it automatically.
☞ Press the ALT and F keys in the same time to call the File menu and the O key or so the CTRL and O keys to use the 'Open' control.
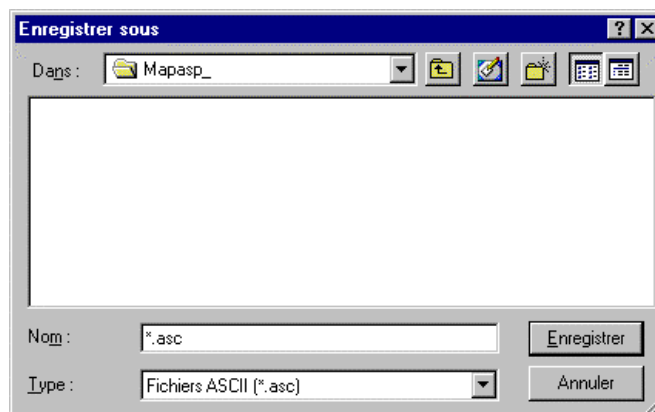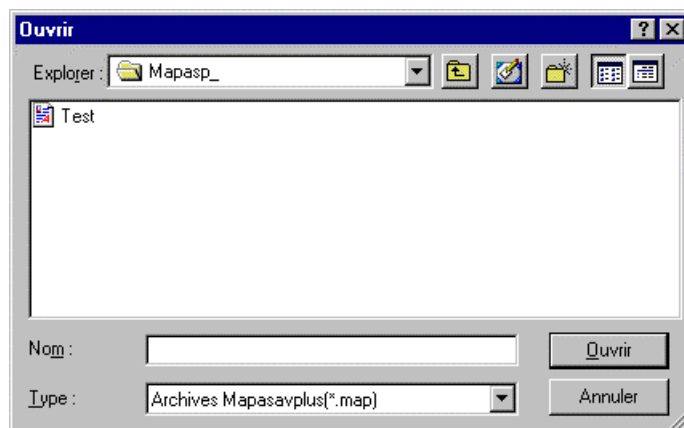To move into the window, use the TABULATION key.
To unwind the lists in the frames with arrows, use the ↑↓ keys.
To validate a file, a file type, a folder or a reader (disk drive) selected, press the ENTER key.

If a file which is used at the moment is not still saved or if some alterations have been done in the file are not saved, a message will appear on the screen to warn you.
Indeed every loading of a file begins to erase data of the file present on the screen.
Then this warning permits to the user to confirm his action or to cancel it if there is an omission.

During the set up of the software a 'Test.map' file has been copied out on the hard disk of your computer. . This file is available to familiarise the user with the software controls.
In the File menu, an area contains the 4 last files used, select the file concerned.
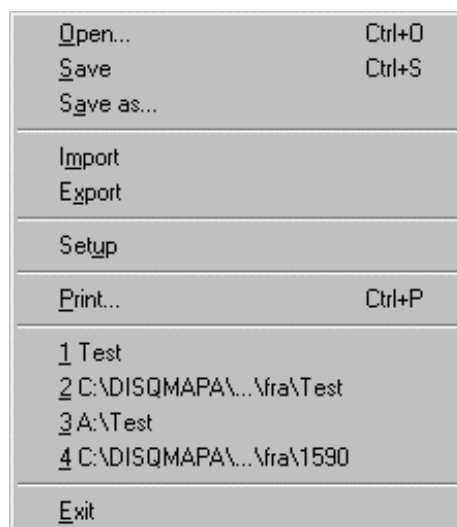
Window 22

VI-5. The 'Import' control

The file menu has the 'Import' control permitting to get back an ASCII file previously exported.

☞ Press the ALT and F keys in the same time to call the File menu and the M key to use the 'Import' control.

VI-6. VI-6. The 'Print' control

🖨️   Printing of the report.

☞ Press the ALT and F keys in the same time to call the File menu and the P key to use the 'Print' control.

The report is printed following the selection made in the set up board (File menu, Set up control). Refer to the paragraph explaining the functionalities of the set up board.

If any page is selected, a warning will appear on the screen.

VI-7. The 'Set up' control

Connect the MAPA to PC and pass in PC communication mode (see IV-3).

❤️🔲   Click on the icon or select the control Set up in the file MAPA to program the MAPA.

According to the version of MAPA33, the Set up window changes. In the case of MAPA33 simple version:

Set up of MAPA   ☒

Examination start hour: 19/4/2001   at: 10:36

Patient name [   ]

Wake up hour [07 ▼]   Bed hour [22 ▼]

Day interval time [15 ▼]   Night interval time [30 ▼]

Maximum number of possible intervals:

Intervals	Starts H	Time mn		Intervals	Starts H	Time mn
1				7		
2				8		
3				9		
4				10		
5				11		
6				12		

[OK]   [Cancel]

Window 23

A the top, appear the date and the examination start hour which will be set up in the MAPA33 and correspond to the date and time of your PC. To update possibly these parameters use the Windows tools.
The field 'Patient name' must be filled with a maximum of 32 characters.
4 windows are also available to adjust the 'wake up hour' of the patient, from which the day interval times will run the automatic measurements. 'The bed hour' will initialize the 'night interval times' and the unit will make measurements at the rate indicated in this last window. The two interval times are adjustable per range of 5 minutes by clicking on the right arrow. Other fields are not available.

In the case of MAPA33 multicycle version:

Window 24

It is identical to the previous window except that there is no more notion of day and night interval times but the MAPA can run until 12 interval times according to the version.
In the window above, only 2 interval times are usable, and which means, in this example, that the unit will make measurements every 15 minutes from 07.00 am and measurements every 30 minutes from 10.00 p.m.
To change these parameters, click on the right arrow.
To use just one interval time, select the symbol XX in the box 'Start H'. In this example below, the second interval time is devalidated.

Window 25

The first interval time can be devalidated, as the MAPA needs at least 1 value to run the measurements in automatic mode. Other fields stay identical, the patient name is obligatory (32 characters maximum) and the wake up and bed hours allow to determine the different periods of the day necessary to the graphs and statistics table. The date and time are PC parameters and will be transferred to MAPA by clicking on the OK button.
The different parameters set up in this window are transferred to MAPA as soon as the user clicks on the OK button. The MAPA emits then 3 beeps indicating that the parameters are well-loaded. The user disconnects then the cable from MAPA which emits immediately a long beep indicating that the records table possibly present in memory has been erased and it will make its first automatic measurement at the end of the first cycle.

☞ Press the ALT and M keys in the same time to call the menu <u>M</u>apa and the S key to use the 'Set up' control.
To move inside the window, use the TABULATION key.
To unwind the lists in the frames with arrows, use the ↑↓ keys.
To validate a file, press ENTER key.

        VI-8. <u>The software version and SAVE33 co-ordinates</u>

Click on this icon or slect 'About MAPASAV PLUS…' in the '?'menu to display the software
version and the co-ordinates of SAVE 33.

☞ Press the ALT and SHIFT keys and ? at the same time to call the menu <u>?</u> and the A key to use the '<u>A</u>bout
MAPASAVPLUS…' control.
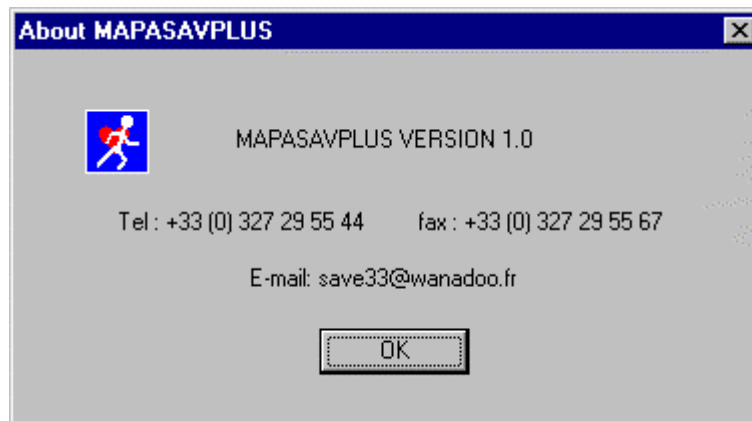
Window 26

This window permits to obtain all the necessary information to contact the SAVE33 firm.
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Frequently asked Questions

Impossible to read MAPA33 data

- check that MAPA33 is in communication with the PC. The machine must display the message 'PC communication'.
- check that the interface cable is correctly connected to the machine and to the computer.
- check that there is no other application (PDA, S.S. card driver, etc.) that is using the serial port COM selected
- check that the serial-USB adaptor is well setup :

      Click on Starting Buton under Windows, select My Computer and make a right click with your mouse.
      Click on Manage, the window "Management of computer" is opened.
      Double-click on "Device monitoring", all the peripherals connected to your computer are displayed in the right part of the window.
   Click on the "+" symbol in front of Ports (COM and LPT) to display the list of all the ports used on your computer
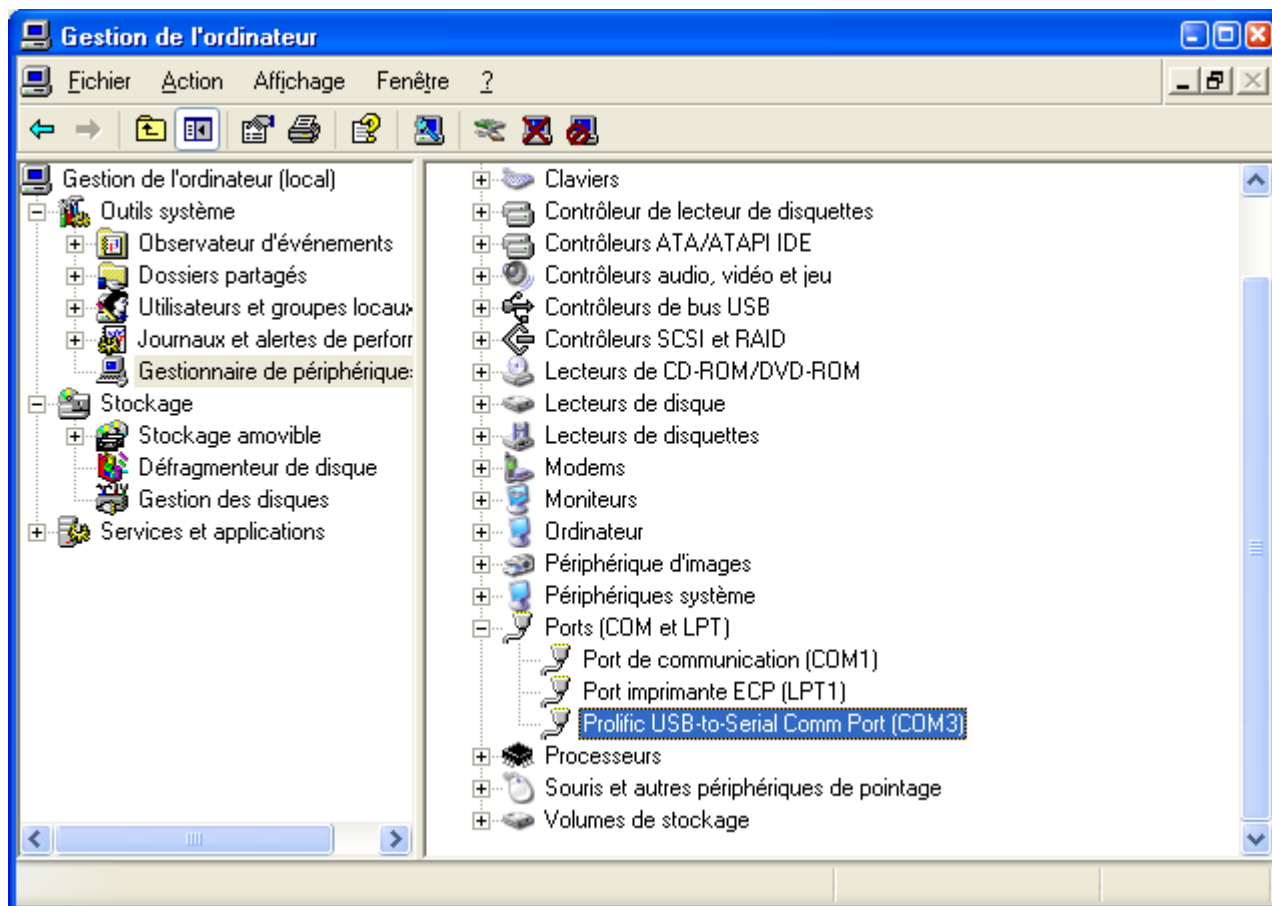

      The serial/USB adapter must be included in the list as in the window above.
      If not, you have to instal again the driver from the CD-ROM of intallation in respect of the note attached with the adapter.

      In the example above, the serial com port created by Windows is the COM port n° 3. However, Windows allocates sometimes a virtual serial com port superior to number 4. As rhe MAPASAV PLUS software only manages the serial com port between 1 and 4 numbers, you will have to modify the number of serial com port. In this case, make a right click with the mouse and click on Properties then on Properties of port. The window is opened as below:
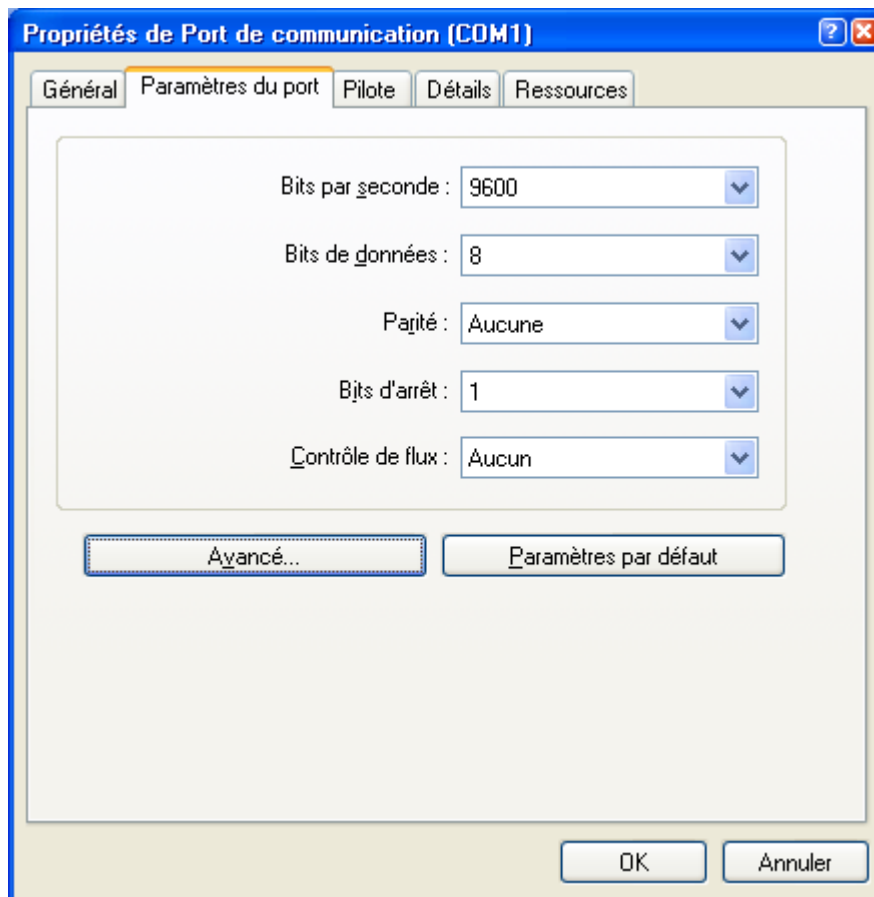
Click on the button "Advanced", select one number of com port between 1 and 4, that is not currently used.
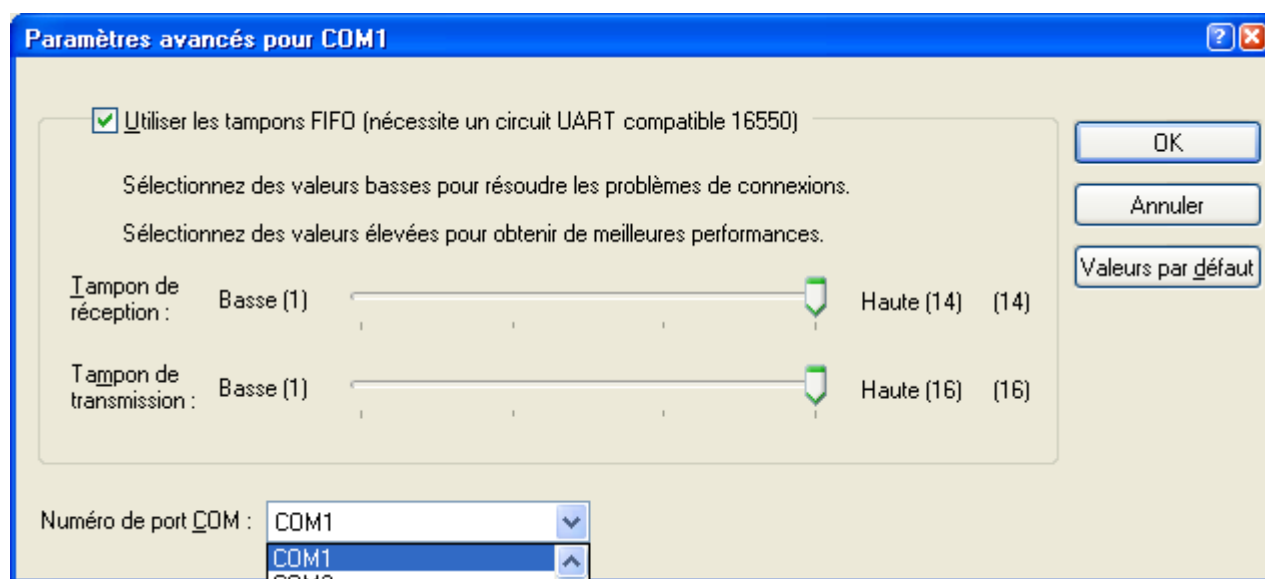
- Valid by clicking on OK and close the windows.
- Select the same number of com port in the software MAPASAV PLUS. Click in the File menu, then "Configuration" and on tab "Communication".
- Click on the button TEST to test the selected port. If the test is OK; the message is displayed as below :
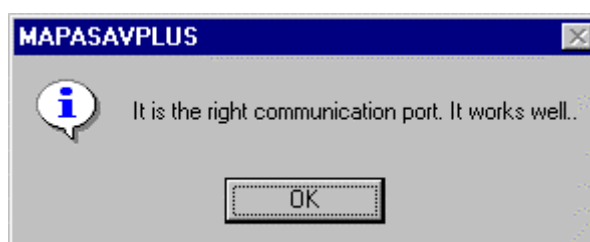
<u>What is a standard deviation ?</u>

The standard deviation permits to appreciate the dispersion of data series compared with the average.

By mathematics definition, the standard deviation is the square root of the variation (or fluctuation) of statistic series, written V².

The variation is the average of the square roots reduced of the square root of the average.

$$V^2 = (\overline{X^2}) - (\overline{X})^2$$

$$\text{Écart type} = \sqrt{V^2}$$